



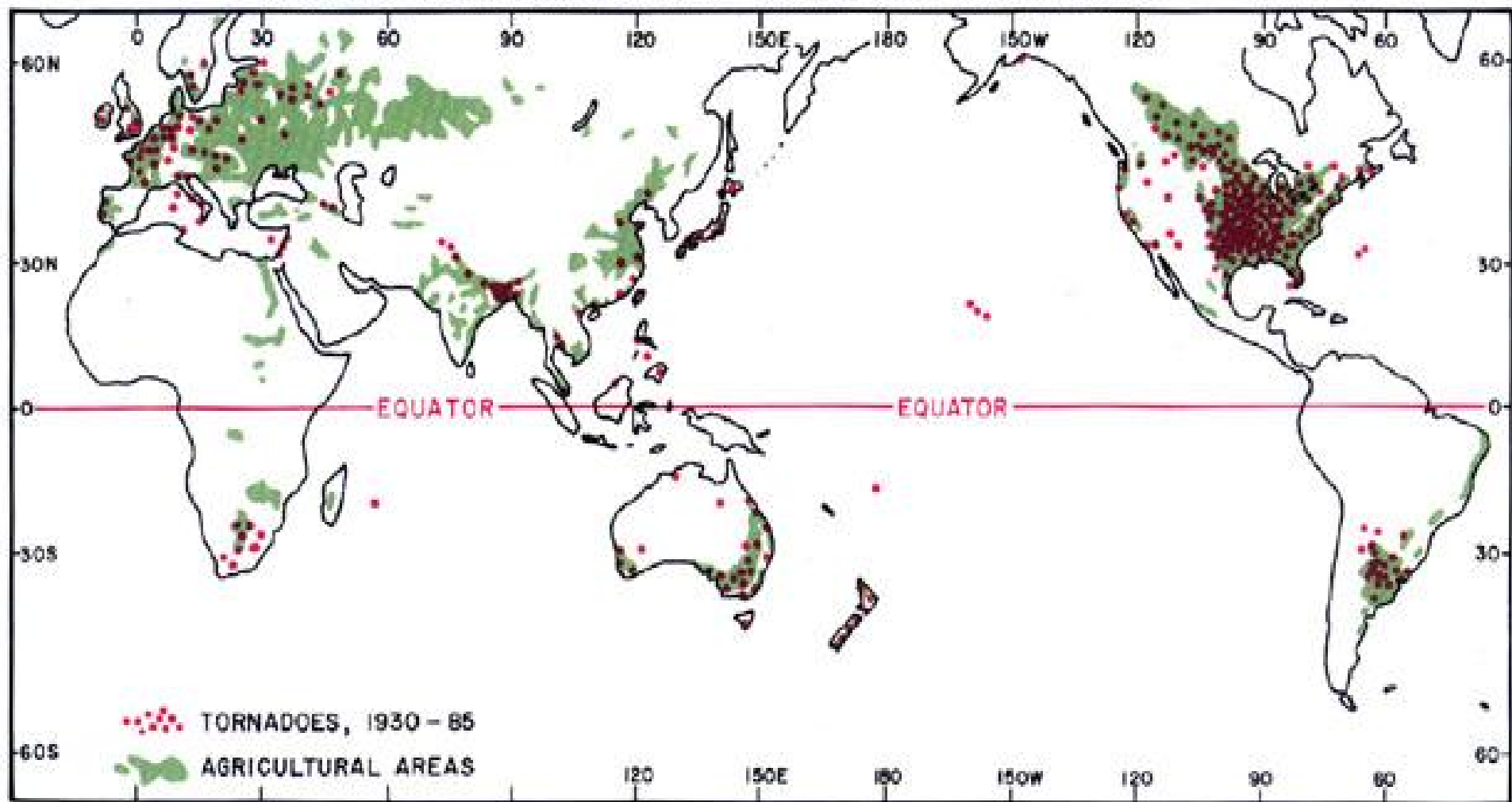
1999 Tornado Outbreak

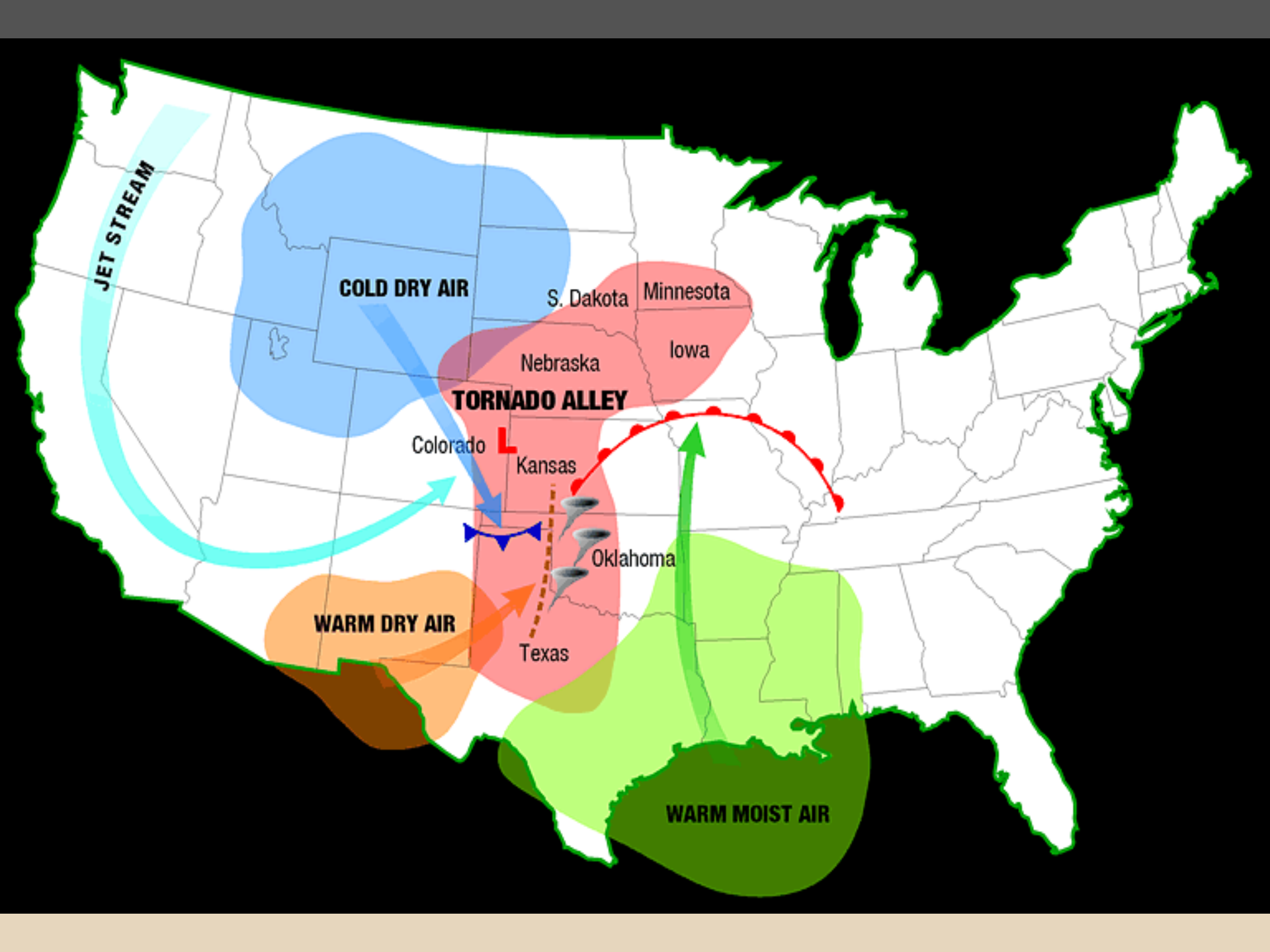
What is a Tornado?

- Column of spinning air that forms during thunderstorms
- Can form virtually anywhere, most common in Tornado Alley
- Leaves behind path of destruction



WORLD TORNADOES AND AGRICULTURAL AREAS















EF Scale



- Dr. Theodore Fujita
 - F-Scale
- Measures damage caused
- EF Scale
 - modification of F-Scale
 - More accurate
 - 0-5

EF Rating	Wind Speeds	Expected Damage	
EF-0	65-85 mph	'Minor' damage: shingles blown off or parts of a roof peeled off, damage to gutters/siding, branches broken off trees, shallow rooted trees toppled.	 
EF-1	86-110 mph	'Moderate' damage: more significant roof damage, windows broken, exterior doors damaged or lost, mobile homes overturned or badly damaged.	 
EF-2	111-135 mph	'Considerable' damage: roofs torn off well constructed homes, homes shifted off their foundation, mobile homes completely destroyed, large trees snapped or uprooted, cars can be tossed.	 
EF-3	136-165 mph	'Severe' damage: entire stories of well constructed homes destroyed, significant damage done to large buildings, homes with weak foundations can be blown away, trees begin to lose their bark.	 
EF-4	166-200 mph	'Extreme' damage: Well constructed homes are leveled, cars are thrown significant distances, top story exterior walls of masonry buildings would likely collapse.	 
EF-5	> 200 mph	'Massive/incredible' damage: Well constructed homes are swept away, steel-reinforced concrete structures are critically damaged, high-rise buildings sustain severe structural damage, trees are usually completely debarked, stripped of branches and snapped.	 

Tornado Outbreak

- Oklahoma/Kansas
- 74 tornadoes in 24 hours
- 48 killed, 800 injured
- 8000 homes destroyed
- 1.5 billion in damage



Fujita Scale of Tornado Intensity

Scale	Wind Speed Estimate (mph)
F0	Under 72
F1	73-112
F2	113-157
F3	158-206
F4	207-260
F5	261-318
Damage Path	

Tornado tracks are colored and labeled with respect to the parent supercell thunderstorm.

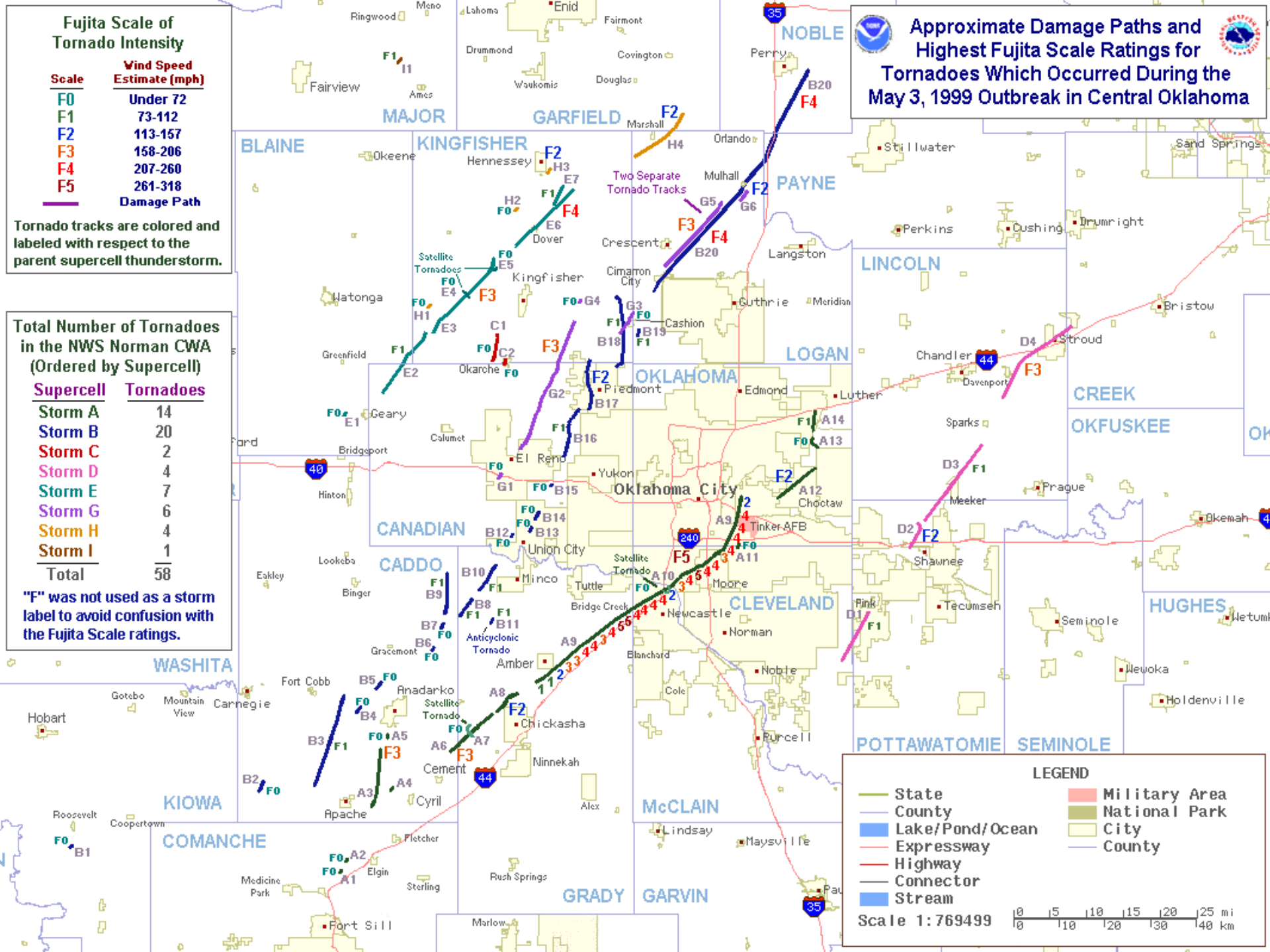
Total Number of Tornadoes in the NWS Norman CWA (Ordered by Supercell)

Supercell	Tornadoes
Storm A	14
Storm B	20
Storm C	2
Storm D	4
Storm E	7
Storm G	6
Storm H	4
Storm I	1
Total	58

"F" was not used as a storm label to avoid confusion with the Fujita Scale ratings.



Approximate Damage Paths and Highest Fujita Scale Ratings for Tornadoes Which Occurred During the May 3, 1999 Outbreak in Central Oklahoma



LEGEND

- State
- County
- Lake/Pond/Ocean
- Expressway
- Highway
- Connector
- Stream
- Military Area
- National Park
- City
- County

Scale 1:769499

0 15 110 115 120 125 mi
0 10 120 130 140 km

